



#7/a

SEQUENCE LISTING

<110> Grainger, David J.
Tatalick, Lauen Marie
Kanaly, Suzanne T.

<120> Compounds and methods to inhibit or
augment an inflammatory response.

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<140> US 09/150813

<141> 1998-09-11

<150> US 08/927939

<151> 1997-09-11

<160> 105

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<213> Artificial Sequence

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<223> A chemokine peptide variant

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<223> A chemokine peptide variant

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<223> A chemokine peptide variant

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<212> PRT

<213> Homo sapiens

<400> 16

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 Thr Cys Cys Tyr Asn Phe Thr Asn Arg Lys Ile Ser Val Gln Arg Leu
 35 40 45
 Ala Ser Tyr Arg Arg Ile Thr Ser Ser Lys Cys Pro Lys Glu Ala Val

50 55 60
 Ile Phe Lys Thr Ile Val Ala Lys Glu Ile Cys Ala Asp Pro Lys Gln
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 Lys Trp Val Gln Asp Ser Met Asp His Leu Asp Lys Gln Thr Gln Thr
 85 90 95
 Pro Lys Thr

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 <212> PRT
 <213> Homo sapiens

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 Thr Asn Ile Gln Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Lys Arg
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 Gly Lys Glu Val Cys Ala Asp Pro Lys Glu Arg Trp Val Arg Asp Ser
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 Met Lys His Leu Asp Gln Ile Phe Gln Asn Leu Lys Pro
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 35 40 45

Glu Ser Tyr Arg Arg Thr Thr Ser Ser His Cys Pro Arg Glu Ala Val
 50 55 60
 Ile Phe Lys Thr Lys Leu Asp Lys Glu Ile Cys Ala Asp Pro Thr Gln
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 <212> PRT
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 35 40 45
 Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Gly Val Ile Phe
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 35 40 45
 Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val Val
 50 55 60
 Phe Gln Thr Lys Arg Ser Lys Gln Val Cys Ala Asp Pro Ser Glu Ser
 65 70 75 80
 Trp Val Gln Glu Tyr Val Tyr Asp Leu Glu Leu Asn
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 35 40 45
 Glu Tyr Phe Tyr Thr Ser Gly Lys Cys Ser Asn Pro Ala Val Val Phe
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 Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys
 35 40 45
 Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys
 50 55 60
 Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln
 65 70 75 80
 Glu Tyr Leu Glu Lys Ala Leu Asn Lys
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 <211> 99
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 <213> Homo sapiens

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 Arg Cys Gln Cys Ile Lys Thr Tyr Ser Lys Pro Phe His Pro Lys Phe
 35 40 45
 Ile Lys Glu Leu Arg Val Ile Glu Ser Gly Pro His Cys Ala Asn Thr
 50 55 60
 Glu Ile Ile Val Lys Leu Ser Asp Gly Arg Glu Leu Cys Leu Asp Pro
 65 70 75 80
 Lys Glu Asn Trp Val Gln Arg Val Val Glu Lys Phe Leu Lys Arg Ala
 85 90 95
 Glu Asn Ser

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20 25 30
Ala Gly Ala Ser Val Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr
35 40 45
Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser Val Asn Val Lys Ser
50 55 60
Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn
65 70 75 80
Gly Arg Lys Ala Cys Leu Asn Pro Ala Ser Pro Ile Val Lys Lys Ile
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Ile Glu Lys Met Leu Asn Ser Asp Lys Ser Asn
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<212> PRT

<213> Homo sapiens

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20 25 30
Cys Phe Asn Leu Ala Asn Arg Lys Ile Pro Leu Gln Arg Leu Glu Ser
35 40 45
Tyr Arg Arg Ile Thr Ser Gly Lys Cys Pro Gln Lys Ala Val Ile Phe
50 55 60
Lys Thr Lys Leu Ala Lys Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp
65 70 75 80
Val Gln Asp Ser Met Lys Tyr Leu Asp Gln Lys Ser Pro Thr Pro Lys
85 90 95
Pro

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<212> PRT

<213> Mus musculus

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20 25 30
Thr Cys Cys Tyr Ser Phe Thr Ser Lys Met Ile Pro Met Ser Arg Leu
35 40 45
Glu Ser Tyr Lys Arg Ile Thr Ser Ser Arg Cys Pro Lys Glu Ala Val
50 55 60
Val Phe Val Thr Lys Leu Lys Arg Glu Val Cys Ala Asp Pro Lys Lys
65 70 75 80
Glu Trp Val Gln Thr Tyr Ile Lys Asn Leu Asp Arg Asn Gln Met Arg
85 90 95
Ser Glu Pro Thr Thr Leu Phe Lys Thr Ala Ser Ala Leu Arg Ser Ser
100 105 110
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Leu Cys Leu Leu Leu Met Thr Ala Ala Phe Asn Pro Gln Gly Leu Ala

10

15

20

cag cca gat gca ctc aac gtc cca tct act tgc tgc ttc aca ttt agc 150

Gln Pro Asp Ala Leu Asn Val Pro Ser Thr Cys Cys Phe Thr Phe Ser

25

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Ser Lys Lys Ile Ser Leu Gln Arg Leu Lys Ser Tyr Val Ile Thr Thr

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agc agg tgt ccc cag aag gct gtc atc ttc aga acc aaa ctg ggc aag 246

Ser Arg Cys Pro Gln Lys Ala Val Ile Phe Arg Thr Lys Leu Gly Lys

60

65

70

gag atc tgt gct gac cca aag gag aag tgg gtc cag aat tat atg aaa 294

Glu Ile Cys Ala Asp Pro Lys Glu Lys Trp Val Gln Asn Tyr Met Lys

75

80

85

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His Leu Gly Arg Lys Ala His Thr Leu Lys Thr

90

95

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 Met Asn Ala Lys Val Val Val Val Leu Val Leu
 1 5 10

gtg ctg acc gcg ctc tgc ctc agc gac ggg aag ccc gtc agc ctg agc 160
 Val Leu Thr Ala Leu Cys Leu Ser Asp Gly Lys Pro Val Ser Leu Ser
 15 20 25

tac aga tgc cca tgc cga ttc ttc gaa agc cat gtt gcc aga gcc aac 208
 Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn
 30 35 40

gtc aag cat ctc aaa att ctc aac act cca aac tgt gcc ctt cag att 256
 Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile

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gta gcc cgg ctg aag aac aac aac aga caa gtg tgc att gac ccg aag 304
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 Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn Lys Arg Phe
 80 85 90

aag atg tgagaggggc agacgcctga ggaaccctta cagtaggagc ccagctctga 408
 Lys Met

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<213> Mus musculus

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Met Asn Pro Ser Ala Ala Val Ile

1

5

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10

15

20

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 catgtattta agctttaatg tgtgtacctt taaagaagag ggaagcagga agaaatccct 2260
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 atgaaaccgt gtgctgacct tcctggctct cccctctct tcctgcag gg atc cct 2676

Gly Ile Pro

ctc gca agg acg gtc cgc tgc aac tgc atc cat atc gat gac ggg cca 2724
 Leu Ala Arg Thr Val Arg Cys Asn Cys Ile His Ile Asp Asp Gly Pro

25

30

35

gtg aga atg agg gcc ata ggg aag ctt gaa atc atc cct gcg agc cta 2772
 Val Arg Met Arg Ala Ile Gly Lys Leu Glu Ile Ile Pro Ala Ser Leu

40

45

50

55

tcc tgc cca cgt gtt gag atc at gtgagtacaa gcccacctgc cgataaacgt 2825
 Ser Cys Pro Arg Val Glu Ile Ile

60

ccctcccgtaccacacagtaaaataagtga gggaaaccag gaaagatggg gacgggtctg 2885
 tgactctaactaaggcacagtgctgaactctgacatgga cctgcagggc catcagctct 2945
 gttggcctgacgttaatctg agtatctcac tcttatttct atag t gcc acg atg 2999

Ala Thr Met

65

aaa aag aat gat gag cag aga tgt ctg aat ccg gaa tct aag acc atc 3047
 Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys Thr Ile

70

75

80

aag aat tta atg aaa gcg ttt agc caa aaa ag gtaggtttga tgttgctttt 3099
 Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg

85

90

tcaggaaatg gtggtctggg gagcagcgcc tgccctgggc tttgctgtgg gcatctgccc 3159
 taaactcatg gcaccggcat gtgcctttgt ctctccattt acacagacac tgaggtgcct 3219
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 ggaaaatgca ccaggccttt tgccccaggg tctttgggtt ccaaagtga agcagagtct 3459
 atccgctcaa tacagtttcc tcttcctaca g g tct aaa agg gct cct 3506

Ser Lys Arg Ala Pro

95

taactggaga gaagccacgc acacaccccg gtgctgtgat ggacagcaga gagcctgtct 3566
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aaaagacaat gtactgtatt gaaagtagta agagacccaa aatgtaataa agtaataata	4226
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<211> 1081

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (43)...(363)

<400> 31

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Met Ala Arg Ala	
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acg ctc tcc gcc gcc ccc agc aat ccc cgg ctc ctg cgg gtg gcg ctg	102
Thr Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu Arg Val Ala Leu	
5 10 15 20	

ctg ctc ctg ctc ctg gtg gcc gcc agc cgg cgc gca gca gga gcg ccc	150
Leu Leu Leu Leu Leu Val Ala Ala Ser Arg Arg Ala Ala Gly Ala Pro	
25 30 35	

ctg gcc act gaa ctg cgc tgc cag tgc ttg cag acc ctg cag gga att	198
Leu Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr Leu Gln Gly Ile	
40 45 50	

cac ctc aag aac atc caa agt gtg aag gtg aag tcc ccc gga ccc cac	246
His Leu Lys Asn Ile Gln Ser Val Lys Val Lys Ser Pro Gly Pro His	
55 60 65	

tgc gcc caa acc gaa gtc ata gcc aca ctc aag aat ggg cag aaa gct	294
Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn Gly Gln Lys Ala	

70

75

80

tgt ctc aac ccc gca tcg ccc atg gtt aag aaa atc atc gaa aag atg 342
 Cys Leu Asn Pro Ala Ser Pro Met Val Lys Lys Ile Ile Glu Lys Met
 85 90 95 100

ctg aaa aat ggc aaa tcc aac tgaccagaag gaaggaggaa gcttattggt 393
 Leu Lys Asn Gly Lys Ser Asn
 105

ggctgttcct gaaggaggcc ctgcccttac aggaacagaa gaggaagag agacacagct 453
 gcagaggcca cctggattgc gcctaattgtg tttagagcatc acttaggaga agtcttctat 513
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 aaaataaggt tatgattgaa tctacttgca cactctccca ttatatttat tgtttatttt 633
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<210> 32

<211> 1173

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (107)...(448)

<400> 32

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 Met Ser Leu

1

ctg tcc agc cgc gcg gcc cgt gtc ccc ggt cct tcg agc tcc ttg tgc 163
 Leu Ser Ser Arg Ala Ala Arg Val Pro Gly Pro Ser Ser Ser Leu Cys
 5 10 15

gcg ctg ttg gtg ctg ctg ctg ctg ctg acg cag cca ggg ccc atc gcc 211
 Ala Leu Leu Val Leu Leu Leu Leu Leu Thr Gln Pro Gly Pro Ile Ala
 20 25 30 35

agc gct ggt cct gcc gct gct gtg ttg aga gag ctg cgt tgc gtt tgt 259
 Ser Ala Gly Pro Ala Ala Ala Val Leu Arg Glu Leu Arg Cys Val Cys
 40 45 50

tta cag acc acg cag gga gtt cat ccc aaa atg atc agt aat ctg caa 307
 Leu Gln Thr Thr Gln Gly Val His Pro Lys Met Ile Ser Asn Leu Gln
 55 60 65

gtg ttc gcc ata ggc cca cag tgc tcc aag gtg gaa gtg gta gcc tcc 355
 Val Phe Ala Ile Gly Pro Gln Cys Ser Lys Val Glu Val Val Ala Ser
 70 75 80

ctg aag aac ggg aag gaa att tgt ctt gat cca gaa gcc cct ttt cta 403
 Leu Lys Asn Gly Lys Glu Ile Cys Leu Asp Pro Glu Ala Pro Phe Leu
 85 90 95

aag aaa gtc atc cag aaa att ttg gac ggt gga aac aag gaa aac 448
 Lys Lys Val Ile Gln Lys Ile Leu Asp Gly Gly Asn Lys Glu Asn
 100 105 110

tgattaagag aaatgagcac gcatggaaaa gtttcccagt ctacagcaga gaagttttct 508
 ggaggtctct gaaccaggga aagacaagaa ggaaagattt tgttgttggt tgtttatttg 568
 gtttccccag tagttagctt tcttcctggt attcctcact tttgaagagt gtgaggaaaa 628
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tgggaaatat tttaatgttt cttggggaat atgtagaga attcccttac tcttgattgt	988
gggatactat ttaattatct cacttttagaa agctgagtgt ttcacacctt atctatgtag	1048
aatatatttc cttattcaga atttctaaaa gtttaagtgc tatgagggtt aatatcttat	1108
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aaaaa	1173

<210> 33

<211> 825

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (34)...(327)

<400> 33

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Met Lys Val Ser Ala Val Leu	
1 5	

ctg tgc ctg ctg ctc atg aca gca gct ttc aac ccc cag gga ctt gct	102
Leu Cys Leu Leu Leu Met Thr Ala Ala Phe Asn Pro Gln Gly Leu Ala	
10 15 20	

cag cca gat gca ctc aac gtc cca tct act tgc tgc ttc aca ttt agc	150
Gln Pro Asp Ala Leu Asn Val Pro Ser Thr Cys Cys Phe Thr Phe Ser	
25 30 35	

agt aag aag atc tcc ttg cag agg ctg aag agc tat gtg atc acc acc	198
Ser Lys Lys Ile Ser Leu Gln Arg Leu Lys Ser Tyr Val Ile Thr Thr	
40 45 50 55	

agc agg tgt ccc cag aag gct gtc atc ttc aga acc aaa ctg ggc aag	246
Ser Arg Cys Pro Gln Lys Ala Val Ile Phe Arg Thr Lys Leu Gly Lys	
60 65 70	

gag atc tgt gct gac cca aag gag aag tgg gtc cag aat tat atg aaa	294
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Glu Ile Cys Ala Asp Pro Lys Glu Lys Trp Val Gln Asn Tyr Met Lys

75

80

85

cac ctg ggc cgg aaa gct cac acc ctg aag act tgaactctgc taccctact 347

His Leu Gly Arg Lys Ala His Thr Leu Lys Thr

90

95

gaaatcaagc tggagtagct gaaatgactt ttccattctc ctctggcctc ctcttctatg 407

ctttggaata cttctaccat aattttcaaa taggatgcat tcggttttgt gattcaaaat 467

gtactatgtg ttaagtaata ttggetatta ttgacttgt tgctggtttg gagtttattt 527

gagtattgct gatcttttct aaagcaaggc cttgagcaag taggttgctg tctctaagcc 587

cccttccctt ccactatgag ctgctggcag tgggttgat tcggttccca ggggttgaga 647

gcatgcctgt gggagtcctg gacatgaagg gatgctgcaa tgtaggaagg agagctcttt 707

gtgaatgtga gggtgttgct aaattattgt ttattgtgga aagatgaatg caatagtagg 767

actgctgaca ttttgacaga aatacatttt atttaaaatc tcttaaaaaa aaaaaaaa 825

<210> 34

<211> 3112

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1192)... (1267)

<221> CDS

<222> (1953)... (2067)

<221> CDS

<222> (2488)... (2575)

<400> 34

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ttagctttgc ttattttaga gttataaatg atgctgggtc aggtatcttt atgtttgaag 120

atggctccat atttgggttg ttccacaga actctttccc agaaatgctt tttctagggtt 180

aatggctaca catatttcta ggcacctgac atactgacac ccacctctaa agtattttta 240

tgatccacaa ctagcgttta acacagcgcc ccagtcactc cgagactaat aaatagacaa 300

atgactgaaa cgtgacctca tgctttctat tctccagct ttcattgagt tcttttctc	360
tgggaggact gggggtgtc tagccctcca cagcatcagc ccattgaccc tatecttgtg	420
gttatagcag ctgaggaagc agaattacag ctctgtggga aggaatggg ctggagagtt	480
catgcataga ccaattcttt ttttttttt tttttgagat ggagtttcac ttttgttgcc	540
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cgattctcct gccctcagcc tcccgagtag ctgggattac aggcattgtgc caccacgcct	660
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aaagaggaga gatggcttca gacatcagaa ggacgcaggc agcaaagagt agtcagtcct	1140
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Met Gln

1

gtc tcc act gct gcc ctt gcc gtc ctc ctc tgc acc atg gct ctc tgc	1245
Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala Leu Cys	
5 10 15	

aac cag gtc ctc tct gca cca c gtgagtcctat gttgttgttg tgggtatcac	1297
Asn Gln Val Leu Ser Ala Pro	
20 25	

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gaaaagaagg aagttcttaa agcgtgcca aacaccttg tctttttctt cacaactttt	1417
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ccttgacgtc acttggctctg agcaagcctg ccctcctcaa ccactcaggg atcagaagct	1897
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Leu

gct gct gac acg ccg acc gcc tgc tgc ttc agc tac acc tcc cga cag 2002
Ala Ala Asp Thr Pro Thr Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln
30 35 40

att cca cag aat ttc ata gct gac tac ttt gag acg agc agc cag tgc 2050
Ile Pro Gln Asn Phe Ile Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys
45 50 55

tcc aag ccc agt gtc at gtaagtgccg gtcttctctg tcacctctag 2097
Ser Lys Pro Ser Val Ile
60

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Phe Leu Thr Lys Arg Gly Arg
65 70

cag gtc tgt gct gac ccc agt gag gag tgg gtc cag aaa tac gtc agt 2557
Gln Val Cys Ala Asp Pro Ser Glu Glu Trp Val Gln Lys Tyr Val Ser
75 80 85

gac ctg gag ctg agt gcc tgaggggtcc agaagcttcg aggcccagcg 2605
Asp Leu Glu Leu Ser Ala
90

acctcagtgg gcccagtggg gaggagcagg agcctgagcc ttgggaacat gcgtgtgacc 2665
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aataataaag atgttctttt aaacggtaaa ccagtattga gtttggtttt gtttttctgg	3025
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<210> 35

<211> 481

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (55) ... (333)

<400> 35

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Met	
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Lys Ile Ser Val Ala Ala Ile Pro Phe Phe Leu Leu Ile Thr Ile Ala	
5 10 15	

cta ggg acc aag act gaa tcc tcc tca cgg gga cct tac cac ccc tca	153
Leu Gly Thr Lys Thr Glu Ser Ser Ser Arg Gly Pro Tyr His Pro Ser	
20 25 30	

gag tgc tgc ttc acc tac act acc tac aag atc ccg cgt cag cgg att	201
Glu Cys Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg Ile	
35 40 45	

atg gat tac tat gag acc aac agc cag tgc tcc aag ccc gga att gtc	249
Met Asp Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile Val	
50 55 60 65	

ttc atc acc aaa agg ggc cat tcc gtc tgt acc aac ccc agt gac aag	297
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Phe Ile Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp Lys
70 75 80

tgg gtc cag gac tat atc aag gac atg aag gag aac tgagtgaccc 343
Trp Val Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn
85 90

agaaggggtg gcgaaggcac agctcagaga cataaagaga agatgccaaag gccccctcct 403
ccaccacccc ctaactctca gcccagtc caactcttga gcttcctgc tttgaattaa 463
agaccactca tgctcttc 481

<210> 36
<211> 3709
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (885)...(960)

<221> CDS
<222> (2149)...(2260)

<221> CDS
<222> (3383)...(3482)

<400> 36
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tgctccctatg	gcttcccact	tgtggctccc	accatggcct	ggagtttttg	gtggagtttt	780
tcaaataaaa	gccctcagca	ttgcaggacg	gcacagtggg	gagctcttag	cttcaccagg	840
ctcatcaaag	ctgctccagg	aaggcccaag	ccagaccaga	agac atg	cag atc atc	896

Met Gln Ile Ile

1

acc aca gcc ctg	gtg tgc ttg	ctg cta gct	ggg atg tgg	ccg gaa gat	944
Thr Thr Ala Leu	Val Cys Leu	Leu Leu Ala	Gly Met Trp	Pro Glu Asp	
5	10	15	20		

gtg gac agc aag	agc a gtgagtgtg	caggcatcat	tttgcttctc	tctggggagg	1000
Val Asp Ser Lys	Ser				

25

gcagaaacgt	ggtcagccac	tctggggttg	gagcaggctt	ctccttgaac	tcaccaactc	1060
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agtagagtca	gaaggcaaga	ccgggctcta	acaattgggc	actcttgggc	aagtcacttt	1360
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ggattcaaga	gactgagtag	ggcagctagc	tagttcctgg	gagctcttcc	cttgtcatct	1660
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ccgtctggat	gtgggtccca	agccagggt	tgtcctggga	ggcggttttt	tgtttgtttt	2080
ttaaaaattg	tgctacaggt	gagaggttga	gaaatggatg	caaaccatcg	tctgtgttcc	2140
tcttctag	tg cag gta	ccc ttc tcc	aga tgt tgc	ttc tca ttt	gcg gag	2189

Met Gln Val Pro Phe Ser Arg Cys Cys Phe Ser Phe Ala Glu

caa gag att ccc ctg agg gca atc ctg tgt tac aga aat acc agc tcc 2237
 Gln Glu Ile Pro Leu Arg Ala Ile Leu Cys Tyr Arg Asn Thr Ser Ser
 40 45 50 55

atc tgc tcc aat gag ggc tta at gtaagtgatc acctgctcaa tctctcccta 2290
 Ile Cys Ser Asn Glu Gly Leu Ile
 60

gagaacagaa ccccgccagc ctggaattac aagagtagac actagatgac agtattttac 2350
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 ctctgttcac ag a ttc aag ctg aag aga ggc aaa gag gcc tgc gcc ttg 3419
 Phe Lys Leu Lys Arg Gly Lys Glu Ala Cys Ala Leu
 65 70 75

gac aca gtt gga tgg gtt cag agg cac aga aaa atg ctg agg cac tgc 3467
 Asp Thr Val Gly Trp Val Gln Arg His Arg Lys Met Leu Arg His Cys
 80 85 90

ccg tca aaa aga aaa tgagcagatt tctttccatt gtgggctctg gaaaccacat 3522

Pro Ser Lys Arg Lys

95

ggcttcacct gtccccgaaa ctaccagccc tacaccattc cttctgccct gcttttgcta 3582
ggtcacagag gatctgcttg gtcttgataa gctatgttgt tgcactttaa acatttaa 3642
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<211> 673

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (67)...(450)

<400> 37

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tccacc atg agc ctc aga ctt gat acc acc cct tcc tgt aac agt gcg 108
Met Ser Leu Arg Leu Asp Thr Thr Pro Ser Cys Asn Ser Ala
1 5 10

aga cca ctt cat gcc ttg cag gtg ctg ctg ctt ctg tca ttg ctg ctg 156
Arg Pro Leu His Ala Leu Gln Val Leu Leu Leu Leu Ser Leu Leu Leu
15 20 25 30

act gct ctg gct tcc tcc acc aaa gga caa act aag aga aac ttg gcg 204
Thr Ala Leu Ala Ser Ser Thr Lys Gly Gln Thr Lys Arg Asn Leu Ala
35 40 45

aaa ggc aaa gag gaa agt cta gac agt gac ttg tat gct gaa ctc cgc 252
Lys Gly Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr Ala Glu Leu Arg
50 55 60

tgc atg tgt ata aag aca acc tct gga att cat ccc aaa aac atc caa 300
Cys Met Cys Ile Lys Thr Thr Ser Gly Ile His Pro Lys Asn Ile Gln

65

70

75

agt ttg gaa gtg atc ggg aaa gga acc cat tgc aac caa gtc gaa gtg 348
 Ser Leu Glu Val Ile Gly Lys Gly Thr His Cys Asn Gln Val Glu Val
 80 85 90

ata gcc aca ctg aag gat ggg agg aaa atc tgc ctg gac cca gat gct 396
 Ile Ala Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu Asp Pro Asp Ala
 95 100 105 110

ccc aga atc aag aaa att gta cag aaa aaa ttg gca ggt gat gaa tct 444
 Pro Arg Ile Lys Lys Ile Val Gln Lys Lys Leu Ala Gly Asp Glu Ser
 115 120 125

gct gat taatttggtc tgtttctgcc aaacttcttt aactcccagg aagggtagaa 500
 Ala Asp

ttttgaaacc ttgattttct agagttctca tttattcagg atacctattc ttactgtatt 560
 aaaatttgga tatgtgtttc attctgtctc aaaaatcaca ttttattctg agaagggttg 620
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<210> 38

<211> 12

<212> PRT

<213> Homo sapiens

<400> 38

Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln
 1 5 10

<210> 39

<211> 2545

<212> DNA

<213> Homo sapiens

<220>

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<222> (40)...(414)

<400> 39

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Val Leu Phe Leu Leu Gly Ile Ile Leu Leu Val Leu Ile Gly Val Gln	
10 15 20	
gga acc cca gta gtg aga aag ggt cgc tgt tcc tgc atc agc acc aac	150
Gly Thr Pro Val Val Arg Lys Gly Arg Cys Ser Cys Ile Ser Thr Asn	
25 30 35	
caa ggg act atc cac cta caa tcc ttg aaa gac ctt aaa caa ttt gcc	198
Gln Gly Thr Ile His Leu Gln Ser Leu Lys Asp Leu Lys Gln Phe Ala	
40 45 50	
cca agc cct tcc tgc gag aaa att gaa atc att gct aca ctg aag aat	246
Pro Ser Pro Ser Cys Glu Lys Ile Glu Ile Ile Ala Thr Leu Lys Asn	
55 60 65	
gga gtt caa aca tgt cta aac cca gat tca gca gat gtg aag gaa ctg	294
Gly Val Gln Thr Cys Leu Asn Pro Asp Ser Ala Asp Val Lys Glu Leu	
70 75 80 85	
att aaa aag tgg gag aaa cag gtc agc caa aag aaa aag caa aag aat	342
Ile Lys Lys Trp Glu Lys Gln Val Ser Gln Lys Lys Lys Gln Lys Asn	
90 95 100	
ggg aaa aaa cat caa aaa aag aaa gtt ctg aaa gtt cga aaa tct caa	390
Gly Lys Lys His Gln Lys Lys Lys Val Leu Lys Val Arg Lys Ser Gln	
105 110 115	
cgt tct cgt caa aag aag act aca taagagacca cttaccaat aagtattctg	444

Arg Ser Arg Gln Lys Lys Thr Thr

120

125

tggtaaaaat gttctatttt aattataccg ctatcattcc aaaggaggat ggcatataat	504
acaaaggctt attaatttga ctagaaaatt taaaacatta ctctgaaatt gtaactaaag	564
ttagaaagtt gatttttaaga atccaaacgt taagaattgt taaaggctat gattgtcttt	624
gttcttctac caccaccag ttgaatttca tcatgcttaa ggccatgatt ttagcaatac	684
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gctgctgtgg ccatcaacct ctgtatttga atcagcctac aggcctcaca cacaatgtgt	924
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<211> 12

<212> PRT

<213> Homo sapiens

<400> 40

Glu Leu Cys Leu Asp Pro Lys Glu Asn Trp Val Gln
1 5 10

<210> 41

<211> 12

<212> PRT

<213> Homo sapiens

<400> 41

Glu Ile Cys Leu Asp Pro Glu Ala Pro Phe Leu Lys
1 5 10

<210> 42

<211> 12

<212> PRT

<213> Homo sapiens

<400> 42

Gln Val Cys Ala Asp Pro Ser Glu Glu Trp Val Gln
1 5 10

<210> 43

<211> 12

<212> PRT

<213> Homo sapiens

<400> 43

Gln Val Cys Ala Asp Pro Ser Glu Ser Trp Val Gln

1

5

10

<210> 44

<211> 12

<212> PRT

<213> Homo sapiens

<400> 44

Gln Val Cys Ala Asp Pro Ser Glu Ser Trp Val Gln

1

5

10

<210> 45

<211> 125

<212> PRT

<213> Homo sapiens

<400> 45

Met Lys Lys Ser Gly Val Leu Phe Leu Leu Gly Ile Ile Leu Leu Val

1

5

10

15

Leu Ile Gly Val Gln Gly Thr Pro Val Val Arg Lys Gly Arg Cys Ser

20

25

30

Cys Ile Ser Thr Asn Gln Gly Thr Ile His Leu Gln Ser Leu Lys Asp

35

40

45

Leu Lys Gln Phe Ala Pro Ser Pro Ser Cys Glu Lys Ile Glu Ile Ile

50

55

60

Ala Thr Leu Lys Asn Gly Val Gln Thr Cys Leu Asn Pro Asp Ser Ala

65

70

75

80

Asp Val Lys Glu Leu Ile Lys Lys Trp Glu Lys Gln Val Ser Gln Lys

85

90

95

Lys Lys Gln Lys Asn Gly Lys Lys His Gln Lys Lys Lys Val Leu Lys

100

105

110

Val Arg Lys Ser Gln Arg Ser Arg Gln Lys Lys Thr Thr

115

120

125

<210> 46

<211> 128

<212> PRT

<213> Homo sapiens

<400> 46

Met Ser Leu Arg Leu Asp Thr Thr Pro Ser Cys Asn Ser Ala Arg Pro
1 5 10 15
Leu His Ala Leu Gln Val Leu Leu Leu Leu Ser Leu Leu Leu Thr Ala
20 25 30
Leu Ala Ser Ser Thr Lys Gly Gln Thr Lys Arg Asn Leu Ala Lys Gly
35 40 45
Lys Glu Glu Ser Leu Asp Ser Asp Leu Tyr Ala Glu Leu Arg Cys Met
50 55 60
Cys Ile Lys Thr Thr Ser Gly Ile His Pro Lys Asn Ile Gln Ser Leu
65 70 75 80
Glu Val Ile Gly Lys Gly Thr His Cys Asn Gln Val Glu Val Ile Ala
85 90 95
Thr Leu Lys Asp Gly Arg Lys Ile Cys Leu Asp Pro Asp Ala Pro Arg
100 105 110
Ile Lys Lys Ile Val Gln Lys Lys Leu Ala Gly Asp Glu Ser Ala Asp
115 120 125

<210> 47

<211> 96

<212> PRT

<213> Homo sapiens

<400> 47

Met Gln Ile Ile Thr Thr Ala Leu Val Cys Leu Leu Leu Ala Gly Met
1 5 10 15
Trp Pro Glu Asp Val Asp Ser Lys Ser Met Gln Val Pro Phe Ser Arg
20 25 30
Cys Cys Phe Ser Phe Ala Glu Gln Glu Ile Pro Leu Arg Ala Ile Leu
35 40 45
Cys Tyr Arg Asn Thr Ser Ser Ile Cys Ser Asn Glu Gly Leu Ile Phe
50 55 60
Lys Leu Lys Arg Gly Lys Glu Ala Cys Ala Leu Asp Thr Val Gly Trp
65 70 75 80
Val Gln Arg His Arg Lys Met Leu Arg His Cys Pro Ser Lys Arg Lys

85

90

95

<210> 48

<211> 93

<212> PRT

<213> Homo sapiens

<400> 48

Met Lys Ile Ser Val Ala Ala Ile Pro Phe Phe Leu Leu Ile Thr Ile
 1 5 10 15
 Ala Leu Gly Thr Lys Thr Glu Ser Ser Ser Arg Gly Pro Tyr His Pro
 20 25 30
 Ser Glu Cys Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg
 35 40 45
 Ile Met Asp Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile
 50 55 60
 Val Phe Ile Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp
 65 70 75 80
 Lys Trp Val Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn
 85 90

<210> 49

<211> 93

<212> PRT

<213> Homo sapiens

<400> 49

Met Gln Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala
 1 5 10 15
 Leu Cys Asn Gln Val Leu Ser Ala Pro Leu Ala Ala Asp Thr Pro Thr
 20 25 30
 Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile
 35 40 45
 Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Ser Val Ile
 50 55 60
 Phe Leu Thr Lys Arg Gly Arg Gln Val Cys Ala Asp Pro Ser Glu Glu
 65 70 75 80

Trp Val Gln Lys Tyr Val Ser Asp Leu Glu Leu Ser Ala

85

90

<210> 50

<211> 98

<212> PRT

<213> Homo sapiens

<400> 50

Met Lys Val Ser Ala Val Leu Leu Cys Leu Leu Leu Met Thr Ala Ala

1

5

10

15

Phe Asn Pro Gln Gly Leu Ala Gln Pro Asp Ala Leu Asn Val Pro Ser

20

25

30

Thr Cys Cys Phe Thr Phe Ser Ser Lys Lys Ile Ser Leu Gln Arg Leu

35

40

45

Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val Ile

50

55

60

Phe Arg Thr Lys Leu Gly Lys Glu Ile Cys Ala Asp Pro Lys Glu Lys

65

70

75

80

Trp Val Gln Asn Tyr Met Lys His Leu Gly Arg Lys Ala His Thr Leu

85

90

95

Lys Thr

<210> 51

<211> 839

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (54) ... (344)

<400> 51

caaccagaa accaccacct ctcacgcaa agctcacac ttcagcctcc aac atg

56

Met

1

aag gtc tcc gca gca ctt ctg tgg ctg ctg ctc ata gca gct gcc ttc 104
 Lys Val Ser Ala Ala Leu Leu Trp Leu Leu Leu Ile Ala Ala Ala Phe
 5 10 15

agc ccc cag ggg ctc gct ggg cca gct tct gtc cca acc acc tgc tgc 152
 Ser Pro Gln Gly Leu Ala Gly Pro Ala Ser Val Pro Thr Thr Cys Cys
 20 25 30

ttt aac ctg gcc aat agg aag ata ccc ctt cag cga cta gag agc tac 200
 Phe Asn Leu Ala Asn Arg Lys Ile Pro Leu Gln Arg Leu Glu Ser Tyr
 35 40 45

agg aga atc acc agt ggc aaa tgt ccc cag aaa gct gtg atc ttc aag 248
 Arg Arg Ile Thr Ser Gly Lys Cys Pro Gln Lys Ala Val Ile Phe Lys
 50 55 60 65

acc aaa ctg gcc aag gat atc tgt gcc gac ccc aag aag aag tgg gtg 296
 Thr Lys Leu Ala Lys Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp Val
 70 75 80

cag gat tcc atg aag tat ctg gac caa aaa tct cca act cca aag cca 344
 Gln Asp Ser Met Lys Tyr Leu Asp Gln Lys Ser Pro Thr Pro Lys Pro
 85 90 95

taaataatca ccatttttga aaccaaacca gagcctgagt gttgcctaata ttgttttccc 404
 ttcttacaat gcattctgag gtaacctcat tatcagtcca aagggcatgg gttttattat 464
 atatatatat atatattttt ttttaaaaaa aaacgtattg catttaattt attgaggctt 524
 taaaacttat cctccatgaa tatcagttat ttttaaactg taaagctttg tgcagattct 584
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 ttgttcttgt gaacccaaag tgtgactcat taaatggaag taatgttggt ttaggaatac 764
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 actgagctga gggggg 839

<210> 52

<211> 114

<212> PRT

<213> Homo sapiens

<400> 52

Met Ser Leu Leu Ser Ser Arg Ala Ala Arg Val Pro Gly Pro Ser Ser
1 5 10 15
Ser Leu Cys Ala Leu Leu Val Leu Leu Leu Leu Thr Gln Pro Gly
20 25 30
Pro Ile Ala Ser Ala Gly Pro Ala Ala Ala Val Leu Arg Glu Leu Arg
35 40 45
Cys Val Cys Leu Gln Thr Thr Gln Gly Val His Pro Lys Met Ile Ser
50 55 60
Asn Leu Gln Val Phe Ala Ile Gly Pro Gln Cys Ser Lys Val Glu Val
65 70 75 80
Val Ala Ser Leu Lys Asn Gly Lys Glu Ile Cys Leu Asp Pro Glu Ala
85 90 95
Pro Phe Leu Lys Lys Val Ile Gln Lys Ile Leu Asp Gly Gly Asn Lys
100 105 110
Glu Asn

<210> 53

<211> 107

<212> PRT

<213> Homo sapiens

<400> 53

Met Ala Arg Ala Thr Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu
1 5 10 15
Arg Val Ala Leu Leu Leu Leu Leu Val Ala Ala Ser Arg Arg Ala
20 25 30
Ala Gly Ala Pro Leu Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr
35 40 45
Leu Gln Gly Ile His Leu Lys Asn Ile Gln Ser Val Lys Val Lys Ser
50 55 60
Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn
65 70 75 80

Gly Gln Lys Ala Cys Leu Asn Pro Ala Ser Pro Met Val Lys Lys Ile
85 90 95
Ile Glu Lys Met Leu Lys Asn Gly Lys Ser Asn
100 105

<210> 54
<211> 98
<212> PRT
<213> Homo sapiens

<400> 54
Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15
Ser Gly Thr Gln Gly Ile Pro Leu Ala Arg Thr Val Arg Cys Asn Cys
20 25 30
Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys Leu
35 40 45
Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile Ala
50 55 60
Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80
Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys Arg
85 90 95
Ala Pro

<210> 55
<211> 1041
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (18)...(338)

<400> 55
cccgctgct gagcccc atg gcc cgc gct gct ctc tcc gcc gcc ccc agc

50

Met Ala Arg Ala Ala Leu Ser Ala Ala Pro Ser

1

5

10

aat ccc cgg ctc ctg cga gtg gca ctg ctg ctc ctg ctc ctg gta gcc 98

Asn Pro Arg Leu Leu Arg Val Ala Leu Leu Leu Leu Leu Leu Val Ala

15

20

25

gct ggc cgg cgc gca gca gga gcg tcc gtg gcc act gaa ctg cgc tgc 146

Ala Gly Arg Arg Ala Ala Gly Ala Ser Val Ala Thr Glu Leu Arg Cys

30

35

40

cag tgc ttg cag acc ctg cag gga att cac ccc aag aac atc caa agt 194

Gln Cys Leu Gln Thr Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser

45

50

55

gtg aac gtg aag tcc ccc gga ccc cac tgc gcc caa acc gaa gtc ata 242

Val Asn Val Lys Ser Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile

60

65

70

75

gcc aca ctc aag aat ggg cgg aaa gct tgc ctc aat cct gca tcc ccc 290

Ala Thr Leu Lys Asn Gly Arg Lys Ala Cys Leu Asn Pro Ala Ser Pro

80

85

90

ata gtt aag aaa atc atc gaa aag atg ctg aac agt gac aaa tcc aac 338

Ile Val Lys Lys Ile Ile Glu Lys Met Leu Asn Ser Asp Lys Ser Asn

95

100

105

tgaccagaag ggaggaggaa gctcactggt ggctgttctt gaaggaggcc ctgcccttat 398

aggaacagaa gaggaagag agacacagct gcagaggcca cctggattgt gcctaattgtg 458

tttgagcatc gcttaggaga agtcttctat ttattttattt attcattagt tttgaagatt 518

ctatgttaat atttttaggtg taaaataatt aagggtatga ttaactctac ctgcacactg 578

tcctattata ttcattcttt ttgaaatgtc aaccccaagt tagttcaatc tggattcata 638

tttaatttga aggtagaatg ttttcaaagc ttctccagtc attatgttaa tattttctgag 698

gagcctgcaa catgccagcc actgtgatag aggctggcgg atccaagcaa atggccaatg 758

agatcattgt gaaggcaggg gaatgtatgt gcacatctgt tttgtaactg tttagatgaa 818

tgtcagttgt tattttattga aatgatttca cagtgtgtgg tcaacatttc tcatgttgaa 878

actttaagaa ctaaaatggt ctaaatatcc cttggacatt ttatgtcttt cttgtaaggc 938

atactgcctt gtttaatggt agttttacag tgtttctggc ttagaacaaa ggggcttaat 998
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<210> 56
<211> 93
<212> PRT
<213> Homo sapiens

<400> 56
Met Asn Ala Lys Val Val Val Val Leu Val Leu Val Leu Thr Ala Leu
1 5 10 15
Cys Leu Ser Asp Gly Lys Pro Val Ser Leu Ser Tyr Arg Cys Pro Cys
20 25 30
Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn Val Lys His Leu Lys
35 40 45
Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile Val Ala Arg Leu Lys
50 55 60
Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys Leu Lys Trp Ile Gln
65 70 75 80
Glu Tyr Leu Glu Lys Ala Leu Asn Lys Arg Phe Lys Met
85 90

<210> 57
<211> 107
<212> PRT
<213> Homo sapiens

<400> 57
Met Ala Arg Ala Ala Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu
1 5 10 15
Arg Val Ala Leu Leu Leu Leu Leu Val Ala Ala Gly Arg Arg Ala
20 25 30
Ala Gly Ala Ser Val Ala Thr Glu Leu Arg Cys Gln Cys Leu Gln Thr
35 40 45
Leu Gln Gly Ile His Pro Lys Asn Ile Gln Ser Val Asn Val Lys Ser
50 55 60
Pro Gly Pro His Cys Ala Gln Thr Glu Val Ile Ala Thr Leu Lys Asn

65		70		75		80									
Gly	Arg	Lys	Ala	Cys	Leu	Asn	Pro	Ala	Ser	Pro	Ile	Val	Lys	Lys	Ile
		85		90		95									
Ile	Glu	Lys	Met	Leu	Asn	Ser	Asp	Lys	Ser	Asn					
		100		105											

<210> 58
 <211> 1560
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (102)...(398)

<400> 58	
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ggaagaaacc accggaagga accatctcac tgtgtgtaaa c atg act tcc aag ctg	116
	Met Thr Ser Lys Leu
	1 5

gcc gtg gct ctc ttg gca gcc ttc ctg att tct gca gct ctg tgt gaa	164
Ala Val Ala Leu Leu Ala Ala Phe Leu Ile Ser Ala Ala Leu Cys Glu	
	10 15 20

ggc gca gtt ttg cca agg agt gct aaa gaa ctt aga tgt cag tgc ata	212
Gly Ala Val Leu Pro Arg Ser Ala Lys Glu Leu Arg Cys Gln Cys Ile	
	25 30 35

aag aca tac tcc aaa cct ttc cac ccc aaa ttt atc aaa gaa ctg aga	260
Lys Thr Tyr Ser Lys Pro Phe His Pro Lys Phe Ile Lys Glu Leu Arg	
	40 45 50

gtg att gag agt gga cca cac tgc gcc aac aca gaa att att gta aag	308
Val Ile Glu Ser Gly Pro His Cys Ala Asn Thr Glu Ile Ile Val Lys	
	55 60 65

<210> 60

<211> 14

<212> PRT

<213> Homo sapiens

<400> 60

Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala
1 5 10

<210> 61

<211> 15

<212> PRT

<213> Homo sapiens

<400> 61

Val Asp Tyr Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val
1 5 10 15

<210> 62

<211> 15

<212> PRT

<213> Homo sapiens

<400> 62

Glu Ser Tyr Arg Arg Ile Thr Asn Ile Gln Cys Pro Lys Glu Ala
1 5 10 15

<210> 63

<211> 15

<212> PRT

<213> Homo sapiens

<400> 63

Glu Ser Tyr Arg Arg Thr Thr Ser Ser His Cys Pro Arg Glu Ala
1 5 10 15

<210> 64

<211> 15

<212> PRT

<213> Homo sapiens

<400> 64

Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val
1 5 10 15

<210> 65

<211> 12

<212> PRT

<213> Homo sapiens

<400> 65

Glu Ile Cys Ala Asp Pro Lys Glu Lys Trp Val Gln
1 5 10

<210> 66

<211> 12

<212> PRT

<213> Homo sapiens

<400> 66

Glu Ile Cys Ala Asp Pro Thr Gln Lys Trp Val Gln
1 5 10

<210> 67

<211> 12

<212> PRT

<213> Homo sapiens

<400> 67

Glu Ile Cys Ala Asp Pro Lys Glu Arg Trp Val Arg
1 5 10

<210> 68

<211> 12

<212> PRT

<213> Homo sapiens

<400> 68

Asp Ile Cys Ala Asp Pro Lys Lys Lys Trp Val Gln

1 5 10

<210> 69

<211> 15

<212> PRT

<213> Homo sapiens

<400> 69

Ser Val Asn Val Lys Ser Pro Gly Pro His Cys Ala Gln Thr Glu

1 5 10 15

<210> 70

<211> 15

<212> PRT

<213> Homo sapiens

<400> 70

Ser Val Lys Val Lys Ser Pro Gly Pro His Cys Ala Gln Thr Glu

1 5 10 15

<210> 71

<211> 15

<212> PRT

<213> Homo sapiens

<400> 71

Ser Val Asn Val Arg Ser Pro Gly Pro His Cys Ala Gln Thr Glu

1 5 10 15

<210> 72

<211> 12

<212> PRT

<213> Homo sapiens

<400> 72

Lys Ala Cys Leu Asn Pro Ala Ser Pro Ile Val Lys
1 5 10

<210> 73

<211> 12

<212> PRT

<213> Homo sapiens

<400> 73

Lys Ala Cys Leu Asn Pro Ala Ser Pro Met Val Lys
1 5 10

<210> 74

<211> 12

<212> PRT

<213> Homo sapiens

<400> 74

Lys Ala Cys Leu Asn Pro Ala Ser Pro Met Val Gln
1 5 10

<210> 75

<211> 12

<212> PRT

<213> Homo sapiens

<400> 75

Lys Ser Tyr Lys Ile Ile Thr Ser Ser Lys Cys Pro
1 5 10

<210> 76

<211> 661

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (32) ... (331)

<400> 76

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Met Lys Val Ser Ala Ala Leu	
1 5	
ctg tgc ctg ctg ctc ata gca gcc acc ttc att ccc caa ggg ctc gct	100
Leu Cys Leu Leu Leu Ile Ala Ala Thr Phe Ile Pro Gln Gly Leu Ala	
10 15 20	
cag cca gat gca atc aat gcc cca gtc acc tgc tgc tat aac ttc acc	148
Gln Pro Asp Ala Ile Asn Ala Pro Val Thr Cys Cys Tyr Asn Phe Thr	
25 30 35	
aat agg aag atc tca gtg cag agg ctc gcg agc tat aga aga atc acc	196
Asn Arg Lys Ile Ser Val Gln Arg Leu Ala Ser Tyr Arg Arg Ile Thr	
40 45 50 55	
agc agc aag tgt ccc aaa gaa gct gtg atc ttc aag acc att gtg gcc	244
Ser Ser Lys Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Ile Val Ala	
60 65 70	
aag gag atc tgt gct gac ccc aag cag aag tgg gtt cag gat tcc atg	292
Lys Glu Ile Cys Ala Asp Pro Lys Gln Lys Trp Val Gln Asp Ser Met	
75 80 85	
gac cac ctg gac aag caa acc caa act ccg aag act tga acactcactc	341
Asp His Leu Asp Lys Gln Thr Gln Thr Pro Lys Thr *	
90 95	
cacaacccaa gaatctgcag ctaacttatt ttcccctagc tttccccaga catcctgttt	401
tattttatta taatgaattt tgtttggtga tgtgaaacat tatgccttaa gtaatgttaa	461
ttcttattta agttattgat gttttaagtt tatctttcat ggtactagtg ttttttagat	521
acagagactt ggggaaattg cttttcctct tgaaccacag ttctaccctt gggatgtttt	581

gaggggtcttt gcaagaatca tttttttaac attccaatgc atttaataca aagaattgct 641
 aaaatattat tgtggaaatg 661

<210> 77
 <211> 1847
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (80)...(346)

<400> 77
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 ccgcccggcc gcccgcgcc atg aac gcc aag gtc gtg gtc gtg ctg gtc ctc 112
 Met Asn Ala Lys Val Val Val Val Leu Val Leu
 1 5 10

gtg ctg acc gcg ctc tgc ctc agc gac ggg aag ccc gtc agc ctg agc 160
 Val Leu Thr Ala Leu Cys Leu Ser Asp Gly Lys Pro Val Ser Leu Ser
 15 20 25

tac aga tgc cca tgc cga ttc ttc gaa agc cat gtt gcc aga gcc aac 208
 Tyr Arg Cys Pro Cys Arg Phe Phe Glu Ser His Val Ala Arg Ala Asn
 30 35 40

gtc aag cat ctc aaa att ctc aac act cca aac tgt gcc ctt cag att 256
 Val Lys His Leu Lys Ile Leu Asn Thr Pro Asn Cys Ala Leu Gln Ile
 45 50 55

gta gcc cgg ctg aag aac aac aac aga caa gtg tgc att gac ccg aag 304
 Val Ala Arg Leu Lys Asn Asn Asn Arg Gln Val Cys Ile Asp Pro Lys
 60 65 70 75

cta aag tgg att cag gag tac ctg gag aaa gct tta aac aag 346
 Leu Lys Trp Ile Gln Glu Tyr Leu Glu Lys Ala Leu Asn Lys
 80 85

taagcacaac agccaaaaag gactttccgc tagaccact cgaggaaaac taaaaccttg	406
tgagagatga aagggcaaag acgtggggga gggggcctta accatgagga ccagggtgtgt	466
gtgtgggggtg ggcacattga tctgggatcg ggcctgaggt ttgcagcatt tagaccctgc	526
atztatagca tacggtatga tattgcagct tatattcatc catgccctgt acctgtgcac	586
gttggaactt ttattactgg ggtttttcta agaaagaaat tgtattatca acagcatttt	646
caagcagtta gttccttcat gatcatcaca atcatcatca ttctcattct cattttttta	706
atcaacgagt acttcaagat ctgaatttgg cttgtttgga gcatctcctc tgctccccctg	766
gggagtctgg gcacagtcag gtggtggctt aacagggagc tggaaaaagt gtcctttctt	826
cagacactga ggctcccgca gcagcgcccc tcccaagagg aaggcctctg tggcactcag	886
ataccgactg gggctggggc gccgccactg ccttcacctc ctctttcaaa cctcagtgat	946
tggctctgtg ggctccatgt agaagccact attactggga ctgtctcaga gaccctctc	1006
ccagctattc ctactctctc cccgactccg agagcatgct taatcttgct tctgcttctc	1066
atctctgtag cctgatcagc gccgcaccag ccgggaagag ggtgattgct ggggctcgtg	1126
ccctgcattc ctctcctccc agggcctgcc ccacagctcg ggccctctgt gagatccgtc	1186
tttggcctcc tccagaatgg agctggccct ctctgggga tgtgtaatgg tccccctgct	1246
tacccgcaaa agacaagtct ttacagaatc aaatgcaatt ttaaattctga gagctcgctt	1306
gagtgactgg gtttgtgatt gcctctgaag cctatgtatg ccatggaggc actaacaac	1366
tctgaggttt ccgaaatcag aagcgaaaaa atcagtgaat aaaccatcat cttgccacta	1426
ccccctctg aagccacagc aggggttcag gttccaatca gaactgttgg caagggtgaca	1486
tttccatgca tagatgcgat ccacagaagg tcctgggtgg atttgtaact ttttgcaagg	1546
cattttttta tatatatatt tgtgcacatt tttttttacg attctttaga aaacaaatgt	1606
atttcaaaat atatttatag tcgaacaagt catatatatg aatgagagcc atatgaatgt	1666
cagtagttta tacttctcta ttatctcaaa ctactggcaa tttgtaaaga aatatatatg	1726
atatataaat gtgattgcag cttttcaatg ttagccacag tgtatttttt cacttgact	1786
aaaattgtat caaatgtgac atttatatgca ctagcaataa aatgctaatt gtttcatgg	1846
a	1847

<210> 78

<211> 1160

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (27) ... (299)

<400> 78

cctccgacag cctctccaca ggtacc atg aag gtc tcc gcg gca cgc ctc gct 53
Met Lys Val Ser Ala Ala Arg Leu Ala
1 5

gtc atc ctc att gct act gcc ctc tgc gct cct gca tct gcc tcc cca 101
Val Ile Leu Ile Ala Thr Ala Leu Cys Ala Pro Ala Ser Ala Ser Pro
10 15 20 25

tat tcc tcg gac acc aca ccc tgc tgc ttt gcc tac att gcc cgc cca 149
Tyr Ser Ser Asp Thr Thr Pro Cys Cys Phe Ala Tyr Ile Ala Arg Pro
30 35 40

ctg ccc cgt gcc cac atc aag gag tat ttc tac acc agt ggc aag tgc 197
Leu Pro Arg Ala His Ile Lys Glu Tyr Phe Tyr Thr Ser Gly Lys Cys
45 50 55

tcc aac cca gca gtc gtc ttt gtc acc cga aag aac cgc caa gtg tgt 245
Ser Asn Pro Ala Val Val Phe Val Thr Arg Lys Asn Arg Gln Val Cys
60 65 70

gcc aac cca gag aag aaa tgg gtt cgg gag tac atc aac tct ttg gag 293
Ala Asn Pro Glu Lys Lys Trp Val Arg Glu Tyr Ile Asn Ser Leu Glu
75 80 85

atg agc taggatggag agtccttgaa cctgaactta cacaaatttg cctgtttctg 349
Met Ser
90

cttgctcttg tcctagcttg ggaggcttcc cctcactatc ctaccccacc cgtccttga 409
agggcccaga ttctgaccac gacgagcagc agttacaaaa accttcccca ggctggacgt 469
ggtggctcag ccttgtaatc ccagcacttt gggaggccaa ggtgggtgga tcacttgagg 529
tcaggagttc gagacagcct ggccaacatg atgaaacccc atgtgtacta aaaatacaaa 589
aaattagccg ggcgtggtag cgggcgcctg tagtcccagc tactcgggag gctgaggcag 649
gagaatggcg tgaacccggg agcggagctt gcagtgagcc gagatcgcg cactgcactc 709
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aaaaattagc cgcgtggtgg ccacgcctg taatcccagc tactcgggag gctaaggcag 829

gaaaattgtt tgaaccagg aggtggaggg tgcagtgagc tgagattgtg ccacttcact 889
 ccagcctggg tgacaaagt agactccgtc acaacaacaa caacaaaaag cttccccaac 949
 taaagcctag aagagcttct gaggcgctgc tttgtcaaaa ggaagtctct aggttctgag 1009
 ctctggcttt gccttgctt tgcaagggt ctgtgacaag gaaggaagtc agcatgcctc 1069
 tagaggcaag gaagggagga aactgcact cttaagcttc cgccgtctca acccctcaca 1129
 ggagcttact ggcaaacatg aaaaatcggg g 1160

<210> 79

<211> 696

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (109)...(384)

<400> 79

tccccccccc cccccccccc ccccgccga gcacaggaca cagctgggtt ctgaagcttc 60
 tgagttctgc agcctcacct ctgagaaaac ctcttttcca ccaatacc atg aag ctc 117
 Met Lys Leu
 1

tgc gtg act gtc ctg tct ctc ctc atg cta gta gct gcc ttc tgc tct 165
 Cys Val Thr Val Leu Ser Leu Leu Met Leu Val Ala Ala Phe Cys Ser
 5 10 15

cca gcg ctc tca gca cca atg ggc tca gac cct ccc acc gcc tgc tgc 213
 Pro Ala Leu Ser Ala Pro Met Gly Ser Asp Pro Pro Thr Ala Cys Cys
 20 25 30 35

ttt tct tac acc gcg agg aag ctt cct cgc aac ttt gtg gta gat tac 261
 Phe Ser Tyr Thr Ala Arg Lys Leu Pro Arg Asn Phe Val Val Asp Tyr
 40 45 50

tat gag acc agc agc ctc tgc tcc cag cca gct gtg gta ttc caa acc 309
 Tyr Glu Thr Ser Ser Leu Cys Ser Gln Pro Ala Val Val Phe Gln Thr
 55 60 65

aaa aga agc aag caa gtc tgt gct gat ccc agt gaa tcc tgg gtc cag 357
 Lys Arg Ser Lys Gln Val Cys Ala Asp Pro Ser Glu Ser Trp Val Gln

70 75 80

gag tac gtg tat gac ctg gaa ctg aac tgagctgctc agagacagga 404
 Glu Tyr Val Tyr Asp Leu Glu Leu Asn

85 90

agtcttcagg gaaggtcacc tgagcccggga tgcttctcca tgagacacat ctctccata 464
 ctccaggactc ctctccgcag ttctgtgcc ttctcttaat ttaatctttt ttatgtgccg 524
 tgttattgta ttaggtgtca ttccattat ttatattagt ttagccaaag gataagtgtc 584
 ctatgggggat ggtccactgt cactgtttct ctgctgttgc aaatacatgg ataacacatt 644
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<210> 80

<211> 2738

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (123) ... (353)

<400> 80

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 aggtttctgc agcgcttctg tgctgtctgc tcatggcagc cactttcagc cctcagggac 120
 tt gct cag cca gat tca gtt tcc att cca atc acc tgc tgc ttt aac 167

Ala Gln Pro Asp Ser Val Ser Ile Pro Ile Thr Cys Cys Phe Asn

1 5 10 15

gtg atc aat agg aaa att cct atc cag agg ctg gag agc tac aca aga 215
 Val Ile Asn Arg Lys Ile Pro Ile Gln Arg Leu Glu Ser Tyr Thr Arg

20 25 30

atc acc aac atc caa tgt ccc aag gaa gct gtg atc ttc aag acc caa 263
 Ile Thr Asn Ile Gln Cys Pro Lys Glu Ala Val Ile Phe Lys Thr Gln

35

40

45

cgg ggc aag gag gtc tgt gct gac ccc aag gag aga tgg gtc agg gat 311
 Arg Gly Lys Glu Val Cys Ala Asp Pro Lys Glu Arg Trp Val Arg Asp

50

55

60

tcc atg aag cat ctg gac caa ata ttt caa aat ctg aag cca 353
 Ser Met Lys His Leu Asp Gln Ile Phe Gln Asn Leu Lys Pro

65

70

75

tgagccttca tacatggact gagagtcaga gcttgaagaa aagcttattt attttcccca 413
 acctcccca ggtgcagtgt gacattattt tattataaca tccacaaaga gattattttt 473
 aaataattta aagcataata tttcttaaaa agtatttaat tatatttaag ttgttgatgt 533
 tttactcta tctgtcatat atcctagtga atgtaaaatg caaaatcctg gtgatgtgtt 593
 ttttgtttt gttttcctgt gagctcaact aagttcacgg caaaatgtca ttgttctccc 653
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 ggggttaatcg tgtgaccgcg gtggctggca cgaaattgac caaccctggg gttagtatag 953
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 ggtgatttag aggggtgaact cactggaatg gggatgcttg catgtgtaat cttactaaga 1133
 gctaataagaa aggctaggac caaaccagaa acctccaatt ctcatgtgga agcccatgcc 1193
 ctcaccctcc aacatgaaag cctctgcagc acttctgtgt ctgctgctca cagcagctgc 1253
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 tgacccaca cagaagtggg tccaggactt tatgaagcac ctggacaaga aaacccaaac 1493
 tccaaagctt tgaacattca tgactgaact gaaaacaagc catgacttga gaaacaaata 1553
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 aatatgagct ttatgtaata atgtgaatca tggtttttct tagtagattt taaaagttat 1673
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 ggtattgtat aagtccttgc aagaatcagt gcaaagattt gctttaattg ttaagatatg 1853
 atgtccctat ggaagcatat tggtattata taattacata tttgcatatg tatgactccc 1913
 aaattttcac ataaaataga tttttgtata aaaaaaaaaa aaaaaaaaaa aaggacacgg 1973

gcagcagaca gtggtcagtc ctttcttggc tctgctgaca ctcgagccca cattccgtca 2033
cctgctcaga atcatgcagg tctccactgc tgcccttgct gtcctcctct gcaccatggc 2093
tctctgcaac cagttctctg catcacttgc tgctgacacg ccgaccgcct gctgcttcag 2153
ctacacctcc cggcagattc cacagaattt catagctgac tactttgaga cgagcagcca 2213
gtgctccaag cccggtgtca tcttcctaac caagcgaagc cggcaggtct gtgctgaccc 2273
cagtgaggag tgggtccaga aatatgtcag cgacctggag ctgagtgcct gaggggtcca 2333
gaagcttcga ggcccagcga cctcgggtggg ccagtgggg aggagcagga gcctgagcct 2393
tgggaacatg cgtgtgacct ccacagctac ctcttctatg gactggttgt tgccaaacag 2453
ccacactgtg ggactcttct taacttaaat tttaatttat ttatactatt tagtttttgt 2513
aatttatatt cgatttcaca gtgtgtttgt gattgtttgc tctgagagtt ccctgtccc 2573
ctcccccttc cctcacaccg cgtctggtga caaccgagtg gctgtcatca gcctgtgtag 2633
gcagtcatgg caccaaagcc accagactga caaatgtgta tcggatgctt ttgttcaggg 2693
ctgtgatcgg cctggggaaa taataaagat gctcttttaa aaggt 2738

<210> 81

<211> 1085

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (329)...(625)

<400> 81

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tcccgtgggg gtgtggctag gctaagcgtt ttgagctgca ttgctgcgtg cttgatgctt 180
gtcccttttg atcgtggtga tttagagggt gaactcactg gaatggggat gcttgcattgt 240
gtaatcttac taagagctaa tagaaaggct aggaccaaac cagaaacctc caattctcat 300
gtggaagccc atgccctcac cctccaac atg aaa gcc tct gca gca ctt ctg 352

Met Lys Ala Ser Ala Ala Leu Leu

1

5

tgt ctg ctg ctc aca gca gct gct ttc agc ccc cag ggg ctt gct cag 400
Cys Leu Leu Leu Thr Ala Ala Ala Phe Ser Pro Gln Gly Leu Ala Gln

10

15

20

<400> 82

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cattccgtca cctgctcaga atc atg cag gtc tcc act gct gcc ctt gct gtc	113
Met Gln Val Ser Thr Ala Ala Leu Ala Val	
1 5 10	
ctc ctc tgc acc atg gct ctc tgc aac cag ttc tct gca tca ctt gct	161
Leu Leu Cys Thr Met Ala Leu Cys Asn Gln Phe Ser Ala Ser Leu Ala	
15 20 25	
gct gac acg ccg acc gcc tgc tgc ttc agc tac acc tcc cgg cag att	209
Ala Asp Thr Pro Thr Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile	
30 35 40	
cca cag aat ttc ata gct gac tac ttt gag acg agc agc cag tgc tcc	257
Pro Gln Asn Phe Ile Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser	
45 50 55	
aag ccc ggt gtc atc ttc cta acc aag cga agc cgg cag gtc tgt gct	305
Lys Pro Gly Val Ile Phe Leu Thr Lys Arg Ser Arg Gln Val Cys Ala	
60 65 70	
gac ccc agt gag gag tgg gtc cag aaa tat gtc agc gac ctg gag ctg	353
Asp Pro Ser Glu Glu Trp Val Gln Lys Tyr Val Ser Asp Leu Glu Leu	
75 80 85 90	
agt gcc tgaggggtcc agaagcttcg aggccagcg acctcggtgg gccagtgagg	409
Ser Ala	
gaggagcagg agcctgagcc ttgggaacat gcgtgtgacc tccacagcta cctcttctat	469
ggactgggttg ttgccaaaca gccacactgt gggactcttc ttaacttaaa ttttaattta	529
tttatactat ttagtttttg taatttattt tgcatttcac agtgtgtttg tgattgtttg	589
ctctgagagt tcccctgtcc cctccccctt ccctcacacc gcgtctgggtg acaaccgagt	649
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Thr Cys Cys Phe Thr Phe Ser Ser Lys Lys Ile Ser Leu Gln Arg Leu
35 40 45
Lys Ser Tyr Val Ile Thr Thr Ser Arg Cys Pro Gln Lys Ala Val Ile
50 55 60
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